

# IN Your Future

## PAN W602 WiFi 6 & Bluetooth 5.4 Module

### OVERVIEW

The PAN W602-1 is a single band 2.4 GHz companion module with integrated Bluetooth Low Energy (LE) for cost-effective projects and is based on the chipset CC3301 from Texas Instruments.

The PAN W602-2 is a dual band 2.4 & 5 GHz companion module with integrated Bluetooth Low Energy (LE) for projects which require more data rates or less interferences and is based on the chipset CC3351 from Texas Instruments.

The companion modules connects via SDIO or SPI for Wi-Fi and HS UART or SPI for Bluetooth to any Linux or FreeRTOS driven host platform to enable seamless wireless communication.

In a compact form factor the module either comes with an integrated chip antenna or the option to connect an external antenna via the bottom pad. The solution is targeted to be certified for CE RED, FCC, ISED, MIC and RCM.

### Module Features

- Integrated Antenna or Bottom Pad Version
- **Surface Mount Type (SMT) Dimensions [mm]:**  
Bottom Pad: 8.8 x 10 x 1.8  
Integrated Antenna: 8.8 x 15.25 x 1.8
- **Temperature Range (°C):** -40 to 85
- **Host Interface (with 1.8V):**  
WiFi: SDIO or SPI  
Bluetooth: SDIO or UART
- **Coexistence:** 3-wire or 1-wire PTA for external coexistence with additional 2.4-GHz radios



### SOC FEATURES

- Single & Dual band (2.4 GHz & 5 GHz) 802.11 a/b/g/n/ac/ax Wi-Fi
- Bluetooth 5.4 Low Energy (1M, 2M, LE Coded PHY)
- Wi-Fi Multirole support: Access Point & Station
- WPA3 Enterprise as Client
- WiFi 6: Target wake time (TWT), OFDMA for Station, MU-MIMO (Downlink for Station), and Basic Service Set Coloring
- IEEE 802.11ax, 1x1 spatial stream with data rates up to 86 Mbps (MCS7, 20 MHz channel bandwidth)
- FW authentication and anti-rollback protection
- OS driver support for
- Linux®, Android®, and FreeRTOS

## TECHNICAL CHARACTERISTICS

<b>Max. output power WiFi</b>	+20 dBm at 1Mbps DSSS
<b>Typical sensitivity WiFi</b>	-98 dBm at IE802.11b 1Mbps DSSS
<b>Max. output power Bluetooth</b>	20 dBm highest setting
<b>Typical sensitivity Bluetooth</b>	-102.2 dBm at LE Coded PHY
<b>Typical current consumption</b>	Tx:92mA @802.11ax 2.4GHz, Rx:62mA @802.11ax 2.4GHz, Tx:170mA @802.11ax 5GHz, Rx:110mA @802.11ax 5 GHz, Power Down: 12 uA
<b>Voltage range</b>	1.8 V and 3.3 V

## AVAILABLE CERTIFICATIONS (PLANNED)

EUROPE (CE RED), USA (FCC), CANADA (ISED), AUSTRALIA / NEW ZEALAND (RCM), JAPAN (MIC)

## SOFTWARE

The PAN W602 requires a fairly powerful host processor that executes the low-level Wi-Fi® and Bluetooth® drivers as well as some high-level Wi-Fi application software and a Bluetooth stack.

**Supported OS:** Embedded Linux (Yocto), FreeRTOS with Texas Instrument's Sitara Processors

## PART NUMBERS

Partnumber	Module Name	Description
ENWF9211A1KF	PAN W602-1C	WiFi 6 Single band (2.4 GHz) & Bluetooth 5.4 Module based on CC3301 with integrated Chip antenna
ENWF9211C1KF	PAN W602-1B	WiFi 6 Single band (2.4 GHz) & Bluetooth 5.4 Module based on CC3301 with RF Bottom Pad
ENWF9215A1KF	PAN W602-2C	WiFi 6 Dual band (2.4 & 5 GHz) & Bluetooth 5.4 Module based on CC3301 with integrated Chip antenna
ENWF9215C1KF	PAN W602-2B	WiFi 6 Dual band (2.4 & 5 GHz) & Bluetooth 5.4 Module based on CC3301 with RF Bottom Pad
ENWF9211AMKF	PAN W602-1C M2E EVD	M.2 Key E Card based on the module PAN W602-1C
ENWF9211CMKF	PAN W602-1B M2E EVD	M.2 Key E Card based on the module PAN W602-1B
ENWF9215AMKF	PAN W602-2C M2E EVD	M.2 Key E Card based on the module PAN W602-2C
ENWF9215CMKF	PAN W602-2B M2E EVD	M.2 Key E Card based on the module PAN W602-2B

## BLOCK DIAGRAM

